

**ABSTRACT OF THE DISCLOSURE**

Infrared reflection of a laser beam (LB3) irradiated on a welding part (WP) of work (5) is detected by a sensor (6a) high of elevation angle, where it is converted into an electrical signal, which is processed by a measuring circuit (MC) to be input to a quality monitor (QM), where it is stored as a data in a memory (7g), which data is processed by way of a spectral analysis, which calculates a spectral distribution of electrical signal, and a signal power sum in a particular frequency band, to be compared with a threshold value for decision on occurrence of a significant porous state.